 0030-0950/84/0001-0035 $2.00/0

# THE HERPETOFAUNA OF ADAMS COUNTY, OHIO[1]

PAUL M. DANIEL, Department of Zoology, Miami University, Oxford, OH 45056

ABSTRACT. Examination of museum collections and published accounts were combined with visits to Adams Co., Ohio, to determine the occurrence of reptiles and amphibians there. Nineteen salamander, 12 frog and toad, 4 lizard, 15 snake and at least 4 turtle species have been recorded in the county. This is more than has been recorded from any other county in Ohio and further substantiates the unusual nature of this part of Ohio.

OHIO J. SCI. 84 (1): 35-43, 1984

## INTRODUCTION

Several attempts have been made to survey the Ohio herpetofauna in general. Notable and relatively recent among these have been those of Conant (1951) and Walker (1946). The detailed herpetological distributions of regions and counties within Ohio include those of Ashton (1976) in Preble Co., Wood and Duellman (1947) for Montgomery Co., Duellman (1951) for Green Co., Blem (1972) for Hardin Co. and Fichter (1947) for Butler Co. in the till plains. Ruffer

[1]Manuscript received 4 April 1983 and in revised form 27 June 1983 (#83-13).

et al. (1968) lists herpetofauna for a portion of Defiance Co. and Langlois (1964) for the Lake Erie islands of the lake plains physiographic area. A salamander report on southeastern Ohio by Siebert and Brandon (1960) is from the Allegheny plateau, most of it unglaciated.

Adams Co. is unique in many ways. Its 1510 km$^2$ are located in south central Ohio bordered by Brown Co. on the west, Pike and Highland counties on the north, Scioto Co. on the east and the Ohio River and Kentucky on the south and are underlain by, from west to east, Ordovician, Silurian, Devonian limestones, dolomites and shales and Mississippian limestones and sandstones. Bedrock provides a wide variety of soil parent materials resulting in a wide variety of soil types. Parts of 3 major physiographic provinces are in the county. The northwestern third lies in the till plains that cover most of the rest of western Ohio. Soils here are derived from Illinoian tills. The topography is rolling, and agriculture is the chief land use. The bluegrass region that occupies much of north central Kentucky is sometimes referred to as the Lexington Plain and has its surface features formed by stream erosion of limestone bedrock. Irregular contours with forest cover on the slopes and agriculture on the terraces are characteristic of this region (Noble and Karsak 1975). The unglaciated plateau is characterized by high narrow ridges and deep valleys with a range in elevation from 180 to 400 m. A highly faulted region with deep-sided narrow valleys lies in Bratton Twp. This area of about 21 km$^2$ has been explained by both cryptovolcanic and meteoric impact theories (figs. 1 and 2).

The unique nature of Adams Co. was recognized by Thomas (1951) in his discussion of boundaries in providing habitat for range extension. This has been further documented by (McCance 1977). The diverse geological features, fauna, and flora within this political entity have attracted and continue to attract many naturalists to the area, and fortunately many of these persons have deposited specimens in various museums. It is my purpose to list the herpetofauna combining personal observations, published accounts and museum material.

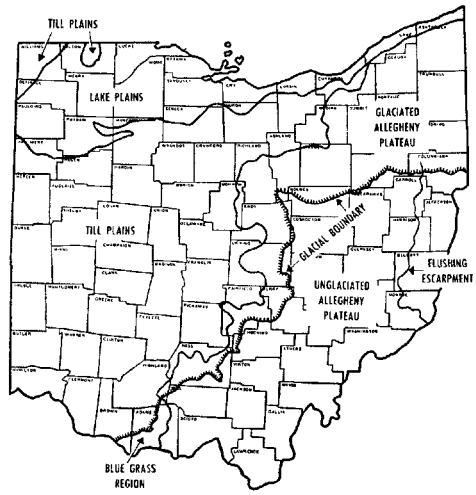


FIGURE 1. Physiographic areas of Ohio (Conant 1951).

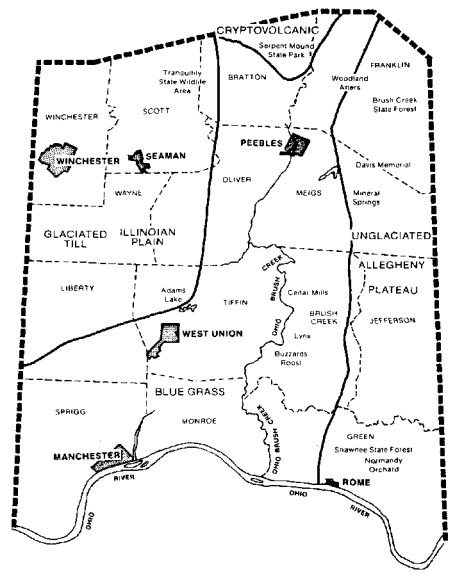


FIGURE 2. Physiographic areas of Ohio as they occur in Adams Co., Ohio, with several collecting sites indicated.

## METHODS AND MATERIALS

Literature examined includes Walker (1946), Conant (1951) and some of the preliminary drafts being prepared for *Salamanders of Ohio* by the Ohio Biological Survey (Pfingsten, in press). Collections examined include those at The Ohio State University Museum of Zoology, Miami University, Ohio University, the Dayton Museum of Natural History, and the Cincinnati Museum of Natural History. At least 19 visits were made to the county between 1972 and 1983 and suitable habitat for herpetofauna was searched by the writer and his students. Specimens that represented new records for the county or in some cases the township were deposited in the Miami University Collections but most specimens were examined and released. Records were kept for each species, and these are summarized in tables 1–5. Only one specific locality is given for each township. Others are available from the author. The names utilized are from the Society for Study of Amphibians and Reptiles list of common and current scientific names (Collins et al. 1978).

## RESULTS

SALAMANDERS. Nineteen species are recorded in table 1. Specimens of *Ambystoma jeffersonianum* may be that species or one of the triploid forms of the complex. Both large aquatic forms, *Necturus maculosus* and *Cryptobranchus alleganiensis,* are based on old records, and the present status of these animals in the county is not known. It should be noted that 3 Ohio salamanders designated as rare and endangered in Ohio and offered protection by state law are found in Adams Co. These are *Eurycea lucifuga, Aneides aeneus* and *Hemidactylium scutatum.*

FROGS AND TOADS. Walker (1946) recorded 2 toads from the family Bufonidae, 3 frogs from the Hylidae and 5 species of Ranidae. Fieldwork since that time has added the hylids *Acris crepitans* and *Pseudacris triseriata* to the herpetofauna of the county (table 2).

TURTLES. The turtle fauna has probably been least investigated, and a thorough search of aquatic habitats might well add several additions to the fauna such as *Chrysemys picta, Chrysemys scripta, Stenotherus odoratus* and *Trionyx muticus.* Four species are recorded in table 3.

LIZARDS. Four of the 5 species recorded from Ohio have been recorded from Adams Co. Of these, *Eumeces laticeps* is the only species not taken since 1960, but recent records from adjacent counties indicate that populations within Adams Co. might still exist (table 4).

TABLE 1

*Salamanders of Adams Co., Ohio.*

| Species | Latest Record | Townships | Selected Specific Localities | Museum Number* |
|---|---|---|---|---|
| Family Cryptobranchidae | | | | |
| *Cryptobranchus alleganiensis* Hellbender | 1931 | Sprigg | Ohio River | OSU 668A668 |
| Family Necturidae | | | | |
| *Necturus maculosus* Mudpuppy | 1931 | Sprigg | Ohio River | OSU 2263CA668 |
| Family Ambystomidae | | | | |
| *Ambystoma texanum* | 1963 | Jefferson | | OSU 332A332 |
| Smallmouth salamander | | Brush Creek | 10.4 km E. of West Union | OSU 4003 |
| | | Scott | | OSU 3622 |
| | | Meigs | | OSU 3964 |
| *Ambystoma opacum* | 1963 | Tiffin | 9.6 km E. of West Union Rt. 125 | OSU 2463 |
| Marbeled salamander | | Jefferson | Blue Creek | OSU 807A807 |
| | | Green | 1.6 km W. of Buena Vista | OSU A1148A181 |
| *Ambystoma jeffersonianum* Jefferson salamander | 1983 | Meigs | Mineral Springs | MU A360 |
| *Ambystoma maculatum* | 1982 | Monroe | | OSU 182A182 |
| Spotted salamander | | Meigs | Mineral Springs | MU A313 |
| | | Franklin | Woodland Alters | MU A317 |

TABLE 1 — (Continued)
*Salamanders of Adams Co., Ohio.*

| Species | Latest Record | Townships | Selected Specific Localities | Museum Number* |
|---|---|---|---|---|
| Family Salamandridae | | | | |
| *Notophthalmus viridescens* | 1983 | Franklin | Woodland Alters | MU A326 |
| Eastern newt | | Meigs | Mineral Springs | MU A328 |
| | | Jefferson | | O.U.V.C. 4010 |
| | | Green | Normandy Orchard | MU A309 |
| Family Plethodontidae | | | | |
| *Desmognathus fuscus* | 1983 | Meigs | Mineral Springs | MU A304 |
| Dusky salamander | | Brush Creek | Wilderness Preserve | P.O. |
| | | Sprigg | Ginger Ridge | MU A210 |
| | | Green | Vastine Run | MU A357 |
| *Plethodon cinereus* | | | | |
| Redback salamander | 1976 | Meigs | On Cedar Fork | OSU 2410 |
| | | Liberty | | OSU 553A553 |
| | | Tiffin | West Union | CMNH 928 |
| | | Brush Creek | Near Lynx | P.O. |
| | | Sprigg | Ginger Ridge | MU A209 |
| | | Green | Near Co. Rd. 18 in cave | OSU 2671 |
| *Plethodon richmondi* | 1982 | Franklin | Woodland Alters | MU A325 |
| Ravine salamander | | Meigs | Mineral Springs | MU A107 |
| | | Brush Creek | Near Lynx | P.O. |
| | | Sprigg | Slopes of Ginger Ridge | MU A211 |
| | | Monroe | 5.6 km W. of Manchester | DMNH 2209 |
| | | Green | Wycoff Run | P.O. |
| *Plethodon glutinosus* | | | | |
| Slimy salamander | 1983 | Franklin | Woodland Alters | MU A323 |
| | | Meigs | Lawshe | P.O. |
| | | Liberty | | OSU 1369A553 |
| | | Tiffin | West Union | CMNH523 |
| | | Brush Creek | Wilderness Preserve | P.O. |
| | | Monroe | Wrightsville | OSU 178A178 |
| | | Green | Vastine Run | MU A356 |
| *Hemidactylium scutatum* | | | | |
| Four-toed salamander | 1974 | Meigs | Mineral Springs | MU A132 |
| | | Green | Normandy Orchard | OSU 3489 |
| *Aneides aeneus* | | Brush Creek | Buzzard's Roost | DMNH 2973 |
| Green salamander | | Green | Black Hollow | DMNH 2861 |
| *Gyrinophilus porphyriticus* | 1983 | Meigs | Mineral Springs | MU A303 |
| Spring salamander | | Green | Near Lower Twin Creek | MU A355 |
| *Pseudotriton ruber* | 1977 | Meigs | Davis Memorial | MU A227 |
| Red salamander | | Green | Black Hollow | DMNH 3303 |
| *Pseudotriton montanus* | 1963 | Meigs | Cedar Run | OSU 2437 |
| Mud salamander | | Green | Wycoff Run | OSU 2432 |
| *Eurycea lucifuga* | 1964 | Brush Creek | 3.2 km So. of Lynx | OSU 3709 and |
| Cave salamander | | | | OSU 3900 |
| *Eurycea longicanda* | 1980 | Scott | Buck Run | P.O. |
| Longtail salamander | | Meigs | Mineral Springs | MU A303 |
| | | Jefferson | | OSU 221A221 |
| | | Sprigg | Ginger Ridge | P.O. |
| | | Green | Vastine Run | OSU 3772 |
| *Eurycea bislineata* | 1983 | Scott | Tranquility Wildlife Area | P.O. |
| Two-lined salamander | | Bratton | Serpent Mound | OSU 1397A452 |
| | | Franklin | Woodland Alters | MU A324 |
| | | Meigs | Mineral Springs | MU A302 |
| | | Brush Creek | Cedar Mills | OSU 286A454 |
| | | Sprigg | Ginger Ridge | MU A212 |
| | | Monroe | 4.0 km W. of Manchester | DMNH 2215 |
| | | Green | Normandy Orchard | MU A221 |

*CMNH — Cincinnati Museum of Natural History; DMNH — Dayton Museum of Natural History; MU — Miami University; OSU — The Ohio State University Museum of Zoology; OUVC — Ohio University Vertebrate Collection; P.O. — Personal observation.

TABLE 2

*Frogs and toads of Adams Co., Ohio.*

| Species | Latest Record | Townships | Selected Specific Localities | Museum Number* |
|---|---|---|---|---|
| Family Bufonidae | | | | |
| *Bufo woodhousei* | 1982 | Bratton | Serpent Mound | OSU 1525A452 |
| Woodhouse's toad | | Meigs | Mineral Springs | MU A215 |
| | | Tiffin | West Union | DMNH 2875 |
| | | Brush Creek | Buzzard's Roost | P.O. |
| | | Jefferson | Btwn. Lynx & Blue Creek | OSU 1522A431 |
| | | Monroe | Pumpkin Ridge | MU A238 |
| *Bufo americanus* | 1982 | Scott | Tranquility Wildlife Area | MU A204 |
| American toad | | Meigs | Mineral Springs | MU A216 |
| | | Tiffin | West Union | P.O. |
| | | Monroe | Island Creek Road | P.O. |
| | | Green | | SL 575 (from Walker 1946) |
| Family Hylidae | | | | |
| *Hyla versicolor* | 1982 | Meigs | Mineral Springs | MU A243 |
| Gray treefrog | | Brush Creek | Buzzard's Roost | P.O. |
| | | Jefferson | Cedar Mills | OSU 1989 |
| | | Green | Rome Hill | OSU 2469 |
| *Hyla crucifer* | 1982 | Bratton | Serpent Mound | P.O. |
| Spring peeper | | Franklin | Woodland Alters | MU A318 |
| | | Meigs | Mineral Springs | MU A314 |
| | | Green | 1.6 km W. of Buena Vista | OSU 1537A92 |
| *Pseudaeris triseriata* | 1963 | Green | Rome Hill | OSU 2411 |
| Striped chorus frog | | | | |
| *Pseudacris brachyphona* | 1982 | Brush Creek | Cedar Mills | OSU 1951A476 |
| Mountain chorus frog | | Green | Smokey Creek | OSU 2501 |
| *Acris crepitans* | 1976 | Scott | 1.6 km S. of Highland Co. line on Rt. 247 | DMNH 2814 |
| Northern cricket frog | | | | |
| Family Ranidae | | | | |
| *Rana pipiens* | 1938 | Franklin | 3.2 km W. of Locust Grove | OSU 2009 |
| Northern leopard frog | | Meigs | Ohio Brush Creek | OSU 1662A453 |
| *Rana palustris* | 1946 | Green | Near Stout | UMMZ 88848 |
| Pickeral frog | (from Walker) | | | |
| *Rana sylvatica* | 1983 | Meigs | Ohio Brush Creek | OSU 1694A453 |
| Wood frog | | Brush Creek | Pond near Bethany Ridge Rd. | MU A308 |
| | | Green | 8.0 km N.W. of Buena Vista | OSU 2618 |
| *Rana catesbeiana* | 1982 | Winchester | Pond near Rt. 32 | MU A327 |
| Bull frog | | Bratton | Serpent Mound | OSU 1595A452 |
| | | Meigs | Mineral Springs | MU A315 |
| | | Liberty | | OUVC 4001 |
| | | Jefferson | Turkey Run near Rts. 781 and 386 | P.O. |
| | | Monroe | Pumpkin Ridge | MU A237 |
| | | Green | Normandy Orchard | MU A312 |
| *Rana clamitans* | 1981 | Meigs | Mineral Springs | MU A258 |
| Green frog | | Green | Normandy Orchard | MU A311 |

*DMNH — Dayton Museum of Natural History; MU — Miami University; OSU — The Ohio State University Museum of Zoology; OUVC — Ohio University Vertebrate Collection; P.O. — Personal observation; SL — Stone Lab; UMMZ — University of Michigan Museum of Zoology.

TABLE 3
*Turtles of Adams Co., Ohio.*

| Species | Latest Record | Townships | Selected Specific Localities | Museum Number* |
|---|---|---|---|---|
| *Chlydra serpentina* Snapping turtle | 1982 | Bratton | Quarry near Serpent Mound | MU R86 |
| | | Brush Creek | Cedar Mills | C |
| *Graptemys geographica* Map turtle | 1970 | Meigs | Ohio Brush Creek at Rt. 41 bridge | OSU 1404 |
| *Terrapene carolina* Eastern box turtle | 1983 | Franklin | | OSU 1273 |
| | | Meigs | Mineral Springs | CMNH 920 |
| | | Brush Creek | Lynx | P.O. |
| | | Sprigg | Manchester | C |
| | | Monroe | 5.6 km E. of Manchester | DMNH 2249 |
| | | Green | Normandy Orchard | P.O. |
| *Trionyx spinifera* Spiny softshell | 1970 | Meigs | Ohio Brush Creek at Rt. 41 bridge | OSU 1405 |

*C — from Conant; CMNH — Cincinnati Museum of Natural History; MU — Miami University; OSU — The Ohio State University Museum of Zoology; P.O. — Personal observation.

TABLE 4
*Lizards of Adams Co., Ohio.*

| Species | Latest Record | Townships | Selected Specific Localities | Museum Number* |
|---|---|---|---|---|
| *Sceloporus undulatus* Eastern fence lizard | 1977 | Bratton | Serpent Mound | C |
| | | Franklin | East of Locust Grove | OSU 801R388 |
| | | Meigs | Beaver Pond | C |
| | | Brush | Buzzard's Roost | MUR60 |
| | | Jefferson | Buzzard's Rock | C |
| | | Monroe | 9.6 km E. of Manchester | DMNH 2425 |
| | | Green | Near Sandy Springs | OSU 797R168 |
| *Scincella lateralis* Ground skink | 1963 | Green | 3.2 km E. of Rome near Rt. 52 | OSU 1139 |
| *Eumeces fasiatus* Five-lined skink | 1976 | Meigs | Mineral Springs | P.O. |
| | | Brush Creek | Near Lynx | P.O. |
| | | Jefferson | | OUVC 3717 |
| | | Green | Smokey Creek | OSU 1163 |
| *Eumeces laticeps* Broadhead skink | 1932 | Brush Creek | Near Ohio Brush Creek | OSU R400 |

*C — from Conant; DMNH — Dayton Museum of Natural History; MU — Miami University; OSU — The Ohio State University Museum of Zoology; OUVC — Ohio University Vertebrate Collection; P.O. — Personal observation.

SNAKES. Conant (1951) records 23 species of snakes from Ohio and 14 from Adams Co. Only *Storeria occipitomaculata* has been added since that time. It is noteworthy that all species have been recorded since 1960 (table 5).

## DISCUSSION

The Butler, Preble, Green, Montgomery and Hardin Co. studies are all from the till plains of Ohio, and each contains considerably fewer total species of herpetofauna than is recorded here from Adams Co. This

TABLE 5

*Snakes of Adams Co., Ohio.*

| Species | Latest Record | Townships | Selected Specific Localities | Museum Number* |
|---|---|---|---|---|
| *Nerodia sipedon* Northern water snake | 1982 | Scott | 1.6 km S. of Highland Co. Line | DMNH 2203 |
| | | Bratton | Serpent Mound | OSU 454R245 |
| | | Meigs | Peach Mountain | C |
| | | Jefferson | Blue Creek | OSU 453R241 |
| | | Oliver | Ohio Brush Creek | MU R91 |
| *Regina septemvittata* Queen snake | 1982 | Scott | Tranquility Wildlife Preserve | P.O. |
| | | Meigs | Peebles | C |
| | | Tiffin | Ohio Brush Creek | C |
| | | Brush Creek | Ohio Brush Creek | MU R89 |
| | | Jefferson | | C |
| *Storeria occipitomaculata* Redbelly snake | 1979 | Meigs | | OUVC 3456 |
| | | Green | | OSU 1676 |
| *Thamnophis sirtalis* Common garter snake | 1983 | Winchester | Pond W. of Winchester along Rt. 32 | MU R88 |
| | | Scott | Along Rt. 246, 1.6 km S. of Highland Co. line | DMNH 2199 |
| | | Meigs | Davis Memorial | P.O. |
| | | Monroe | | OSU 1757 |
| | | Green | | C |
| *Virginia valeriae* Smooth earth snake | 1963 | Jefferson | Co. Rd. 18, 3.2 km S. of Rt. 125 on W. side of road | OSU 1656 |
| | | Green | Smokey Creek | CMNH 2600 |
| *Heterodon platyrhinos* Eastern hognose snake | 1982 | Brush Creek | Buzzard's Roost | P.O. |
| | | Green | | OSU 198R81 |
| *Diadophis punctatus* Ringneck snake | 1980 | Franklin | | C |
| | | Meigs | Mineral Springs | MU R72 |
| | | Monroe | 9.6 km E. of Manchester Rt. 52 | DMNH 2250 |
| | | Green | Long Lick Run | OSU 1142 |
| *Carphophis amoenus* Worm snake | 1966 | Franklin | 4.8 km S. of Locust Grove | OSU 153R759 |
| | | Jefferson | | OSU 2086 |
| | | Green | Smokey Creek | C |
| *Coluber constrictor* Racer | 1974 | Winchester | Winchester | C |
| | | Meigs | Between Lawshe & Peebles | MU R26 |
| | | Brush Creek | Near Lynx Prairie | C |
| | | Sprigg | 8.0 km S.E. of Manchester | C |
| | | Green | Near Stout | C |
| *Opheodrys aestivus* Rough green snake | 1960 | Meigs | Mineral Springs | C |
| | | Brush Creek | 1.6 km W. of Lynx | C |
| | | Green | | OUVC 4000 |
| *Elaphe obsoleta* Rat snake | 1978 | Meigs | Mineral Springs | MU R62 |
| | | Tiffin | Rt. 41 N. of Winchester | P.O. |
| | | Jefferson | | OUVC 4009 |
| | | Green | | OSU 1538 |
| *Lampropeltis getulus* Common kingsnake | 1982 | Brush Creek | Near Lynx | P.O. |
| | | Jefferson | | C |
| | | Green | Rome Hill | OSU 1553 |
| *Lampropeltis triangulum* Milk snake | 1964 | Meigs | Between Peebles & Lawshe | OSU 43R299 |
| | | Green | Rome Hill | OSU 1549 |
| *Agkistrodon contortrix* Copperhead | 1963 | Meigs | 4.8 km S. of Peebles | OSU 1143 |
| | | Jefferson | Dead on Road | C |
| | | Green | Long Lick Run | OSU 1135 |
| *Crotalus horridus* Timber rattlesnake | 1964 | Green | Rome Hill | OSU 1541 |

*C — from Conant; CMNH — Cincinnati Museum of Natural History; DMNH — Dayton Museum of Natural History; MU — Miami University; OSU — The Ohio State University Museum of Zoology; OUVC — Ohio University Vertebrate Collection; P.O. — Personal observations.

TABLE 6

*Herpetofauna of Adams Co. and other Ohio regions.*

| Region | Investigators | Date | Salamander Species | Anuran Species | Lizard Species | Snake Species | Turtle Species | Total |
|---|---|---|---|---|---|---|---|---|
| Montgomery | Wood and Duellman | 1947 | 9 | 7 | 1 | 13 | 5 | 35 |
| Greene Co. | Duellman | 1951 | 4 | 10 | 0 | 12 | 7 | 33 |
| Preble Co. | Ashton | 1976 | 8 | 9 | 3 | 10 | 4 | 34 |
| Butler Co. | Fichter | 1947 | n.a.* | n.a. | 1 | 11 | 4 | n.a. |
| Hardin Co. | Blem | 1972 | 3 | 9 | 1 | 12 | 4 | 29 |
| Erie Islands | Langlois | 1964 | 7 | 7 | 0 | 11 | 3 | 28 |
| Tree Farm Defiance Co. | Ruffer, Leonard and Sherger | 1968 | 1 | 5 | 0 | 3 | 3 | 12 |
| Southeast Ohio 12 Counties | Siebert and Brandon | 1960 | 19 | n.a. | n.a. | n.a. | n.a. | n.a. |
| Adams Co. | Daniel | 1983 | 19 | 12 | 4 | 15 | 4 | 54 |

*Not available

is also true for the Defiance Co. tree farm and Lake Erie islands studies which are included in the lake plains physiographic region. The salamander study in several southeastern Ohio counties contained the same number of species as is found in Adams Co. It is probable that other glacial boundary areas and areas of the unglaciated Allegheny plateau might well yield a high variety of species if sufficiently investigated. Table 6 lists the numbers of species from several studies done in the till plains, lake plains and Allegheny plateau as well as numbers from Adams Co. It should be recognized, however, that studies of political entities are not necessarily of equal size nor is the effort to collect and compile the lists necessarily equal.

Conant (1951) indicates the fewest number of reptile species (14) within the bluegrass physiographic area of Ohio but further indicates that this may be due to its small area in Ohio and to its agricultural usage and that greater collecting effort might increase this number. This has been demonstrated here if collections from Sprigg, Monroe, Green, Brush Creek, Tiffin, Oliver, Meigs, Franklin and Bratton Twps. are considered to be in or adjacent to the bluegrass physiographic region. Many good collecting sites for reptiles and amphibians are associated close to the boundary between bluegrass and unglaciated Allegheny plateau. These include Woodland Alters in Franklin Twp., Mineral Springs and Davis Memorial in Meigs Twp., Cedar Mills, Lynx and Buzzard's Roost in Brush Creek Twp. and Normandy Orchard in Green Twp. (fig. 2).

Adams Co. is a region of physiographic boundaries which provide diverse habitats. Green Twp. has the greatest number of species recorded.

ACKNOWLEDGMENTS. Thanks are due to David Stansbery and John Condit of The Ohio State University Museum of Zoology for cooperation in using museum material. I thank Henri Siebert of Ohio University, Gary Coovert and Diana Morse of the Dayton Museum of Natural History, and Richard Davis of the Cincinnati Museum of Natural History for the use of their collections. Finally, I thank the many students and friends who assisted in the field portions of the study over several years.

## LITERATURE CITED

Ashton, R. E. 1976 The herpetofauna of Preble County, Ohio. Ohio J. Sci. 76: 33–38.

Blem, C. R. 1972 An annoted list of the amphibians and reptiles of Hardin County, Ohio. Ohio J. Sci. 72: 91–96.

Collins, J. T., J. E. Huheey, J. L. Knight and H. M. Smith 1978 Standard common and current scientific names for North American amphibians and reptiles. Herpetological Circ. No. 7, Soc. Study of Amphibians and Reptiles.

Conant, R. 1951 The reptiles of Ohio, 2nd ed. Amer. Midl. Natur. Notre Dame, IN.
Duellman, W. E. 1951 Notes on the reptiles and amphibians of Greene County, Ohio. Ohio J. Sci. 51: 335–341.
Fichter, G. S. 1947 Preliminary list of the reptiles of Butler County, Ohio. Herpetologica 4: 71–73.
Langlois, T. H. 1964 Amphibians and reptiles of the Lake Erie islands. Ohio J. Sci. 64: 11–25.
McCance, R. M. 1977 Ohio natural heritage program technical report. Div. Natur. Areas and Preserves, Ohio Dept. Natur. Prog., Columbus.
Noble, A. G. and A. J. Karsak 1975 Ohio — An American Heartland. Bull. 65 Ohio Geol. Surv.
Pfingsten, Ralph, (ed.) Salamanders of Ohio. Ohio Biol. Surv. (In Press).
Ruffer, D. G., D. Leonard and G. Sherger 1968 Checklist of amphibians, reptiles and mammals of the Tree Farm Natural Area, Defiance County, Ohio. Ohio J. Sci. 68: 312–315.
Siebert, H. and R. Brandon 1960 The salamanders of southeastern Ohio. Ohio J. Sci. 60: 291–303.
Thomas, E. S. 1951 Distribution of Ohio animals. Ohio J. Sci. 51: 153–167.
Walker, C. F. 1946 The amphibians of Ohio: Part I. The frogs and toads. Ohio State Mus. Sci. Bull. I: 3.
Wood, J. T. and W. E. Duellman 1947 Preliminary herpetological survey of Montgomery County, Ohio. Herpetologica 4: 3–6.